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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,701	01/12/2004	Shunpei Yamazaki	07977-276002 / US4942DI	9100
26171	7590	05/20/2005	EXAMINER	
FISH & RICHARDSON P.C.			NGUYEN, DAO H	
P.O. BOX 1022			ART UNIT	
MINNEAPOLIS, MN 55440-1022			PAPER NUMBER	

2818

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/754,701

Applicant(s)

YAMAZAKI ET AL.

Examiner

Dao H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.  
 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 40-65 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 40-65 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date 0205.  
 4) ☐ Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. In response to the communications dated 03/17/2005, claims 40-65 are active in this application.

Claims 1-39 have been cancelled.

Claims 63-65 have been added.

### **Acknowledges**

2. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 02/03/2005. The references cited on the PTOL 1449 form have been considered.

### **Remarks**

3. Applicant's argument(s) filed 12/10/2004, with respect to the newly amended/added claim(s) 40-65, have been fully considered, but they are not persuasive.

Particularly, examiner do/does not agree with Applicant that "neither Forrest, Arai, nor any combination of the two describes or suggests a semiconductor component to which an electroluminescent element is connected and that is operated by signals each having one of predetermined two voltages".

As stated in the previous Office Action, though Forrest is silent about a semiconductor component electrically connected to the electroluminescent element; Arai, additionally, discloses a light emitting device comprising an electroluminescent device electrically connected to a semiconductor component which is a thin film transistor comprising gate electrode 104 and source/drain regions 105/106 (col. 1, lines 5-20; col. 4, line 45 to col. 5, line 9). It would have been obvious to one having ordinary skill in the art to modify the invention of Forrest so that it would include a thin film transistor electrically connected to the electroluminescent element as that of Arai in order to control currents applied to the electroluminescent element (col. 1, lines 17-19 of Arai). Such modification would greatly improve the performance of the device of Forrest (such combination is also common and well known in the art, too).

Furthermore, in operation, the thin film transistor, as that of Arai, for example, is turned on or off, technically, by applying to its gate electrode, and/or source/drain regions either a high or a low voltage. In the other word, either high or low voltage must be applied to the gate electrode, and or source/drain regions to control the operation of a transistor. Such voltages are definitely predetermined.

Therefore, it is clear that Forrest in combination with Arai do teach all of the claimed limitations.

For the above reasons, it is believed that the rejections should be sustained and is rewritten as follows in consideration of the amendments.

**Claim Rejections - 35 U.S.C. § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim(s) 40-65 is/are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,310,360 to Forrest et al., in view of Arai et al., U.S. Patent No. 6,160,272.

Regarding claim 40, Forrest discloses a light emitting device comprising:

an electroluminescent element using a luminescent material (col. 9, line 18 to col. 11, line 18) in which electroluminescence is obtained by triplet excitation (col. 2, line 58 to col. 3, line 53; col. 5, lines 9-27: the ISC Agents convert all of the excitations/excitons into their triplet excitations/excitons, which do emit).

Forrest is silent about a device comprising a semiconductor component which electrically connected to the electroluminescent element, wherein the semiconductor component is operated by signals each having one of predetermined two voltages.

However, Arai discloses a light emitting device comprising an electroluminescent

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device electrically connected to a semiconductor component which is a thin film transistor comprising gate electrode 104 and source/drain regions 105/106 (col. 1, lines 5-20; col. 4, line 45 to col. 5, line 9). Technically, in operation, the thin film transistor of Arai is turned on or off by applying to its gate electrode, and/or source/drain regions either a high or a low voltage. Such voltages are definitely predetermined.

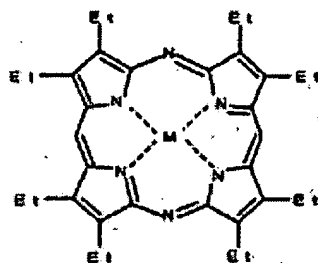
It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Forrest so that it would include a thin film transistor electrically connected to the electroluminescent element as that of Arai in order to control currents applied to the electroluminescent element (col. 1, lines 17-19 of Arai). Such modification would greatly improve the performance of the device of Forrest (such combination is also common and well known in the art, too).

Regarding claim 41, Forrest/Arai disclose the device wherein the semiconductor component is a TFT. See col. 1, lines 5-20 of Arai.

Regarding claims 42-46, Forrest/Arai disclose the device comprising all claimed limitations. See col. 16, line 65 to col. 17, line 8 of Forrest.

Regarding claim 47, Forrest discloses a light emitting device comprising an electro luminescent element which includes a thin film including a luminescent material expressed by a following formula:

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wherein Et represents etyl group; and M represents an element belonging to group 8 to 10 of a periodic table (col. 9, line 18 to col. 11, line 18; col. 17, line 11 to col. 19, line 19; and col. 20, lines 42-44).

Forrest is silent about a device comprising a semiconductor component which electrically connected to the electroluminescent element, wherein the semiconductor component is operated by signals each having one of predetermined two voltages.

However, Arai discloses a light emitting device comprising an electroluminescent device electrically connected to a semiconductor component which is a thin film transistor comprising gate electrode 104 and source/drain regions 105/106 (col. 1, lines 5-20; col. 4, line 45 to col. 5, line 9). Technically, in operation, the thin film transistor of Arai is turned on or off by applying to its gate electrode, and/or source/drain regions either a high or a low voltage. Such voltages are definitely predetermined.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Forrest so that it would include a thin film transistor electrically connected to the electroluminescent element as that of Arai in

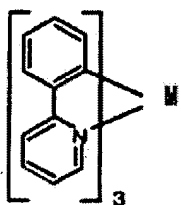
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order to control currents applied to the electroluminescent element (col. 1, lines 17-19 of Arai). Such modification would greatly improve the performance of the device of Forrest (such combination is also common and well known in the art, too).

Regarding claim 48, Forrest/Arai disclose the device wherein M is an element selected from the group consisting of nickel, cobalt and palladium. See col. 9, line 18 to col. 11, line 18; col. 17, line 11 to col. 19, line 19; and col. 20, lines 42-44 of Forrest.

Regarding claims 49-54, Forrest/Arai disclose the device comprising all claimed limitations. See col. 16, line 65 to col. 17, line 8 of Forrest.

Regarding claim 55, Forrest discloses a light emitting device comprising:  
an electroluminescent element (col. 9, line 18 to col. 11, line 18), wherein the electroluminescent element includes a thin film including a luminescent material expressed by a following formula:



wherein M represents an element belonging to group 8 to 10 of the periodic table (col. 9, line 18 to col. 11, line 18; col. 17, line 11 to col. 19, line 19; and col. 20, lines 42-44).



Forrest is silent about a device comprising a semiconductor component which electrically connected to the electroluminescent element, wherein the semiconductor component is operated by signals each having one of predetermined two voltages.

However, Arai discloses a light emitting device comprising an electroluminescent device electrically connected to a semiconductor component which is a thin film transistor comprising gate electrode 104 and source/drain regions 105/106 (col. 1, lines 5-20; col. 4, line 45 to col. 5, line 9). Technically, in operation, the thin film transistor of Arai is turned on or off by applying to its gate electrode, and/or source/drain regions either a high or a low voltage. Such voltages are definitely predetermined.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Forrest so that it would include a thin film transistor electrically connected to the electroluminescent element as that of Arai in order to control currents applied to the electroluminescent element (col. 1, lines 17-19 of Arai). Such modification would greatly improve the performance of the device of Forrest (such combination is also common and well known in the art, too).

Regarding claim 56, Forrest/Arai disclose the device wherein M is an element selected from the group consisting of nickel, cobalt and palladium. See col. 9, line 18 to col. 11, line 18; col. 17, line 11 to col. 19, line 19; and col. 20, lines 42-44 of Forrest.

Regarding claims 57-62, Forrest/Arai disclose the device comprising all claimed limitations. See col. 16, line 65 to col. 17, line 8 of Forrest.

Regarding claim 63-65, Forrest/Arai is silent about methods for operating the semiconductor component. However, since this invention is about a device itself, not about method(s) for operating a device, therefore, "method of operating a device" limitation(s) would not have patentable weight on device claim(s). In addition, a device, such as the thin film transistor of Arai, can be operated in many different methods, depending on its application. Operating a transistor by time division method, or in association with a clock signal, is common and well known in the art, anyway.

### **Conclusion**

6. **THIS ACTION IS MADE FINAL.** A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the

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statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao Nguyen whose telephone number is (571)272-1791. The examiner can normally be reached on Monday-Friday 9:00am - 6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached on (571)272-1787. The fax numbers for all communication(s) is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1625.



Dao H. Nguyen  
Art Unit 2818  
May 17, 2005



David Nelms  
Supervisory Patent Examiner  
Technology Center 2800